UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,523	06/01/2007	Moussa B.H. Youdim	YOUDIM4	4618

1444 7590 09/03/2009

BROWDY AND NEIMARK, P.L.L.C.
624 NINTH STREET, NW
SUITE 300
WASHINGTON, DC 20001-5303

EXAMINER	
POHNERT, STEVEN C	
ART UNIT	PAPER NUMBER
1634	

MAIL DATE	DELIVERY MODE
09/03/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/586,523	YOUDIM ET AL.	
	Examiner	Art Unit	
	STEVEN C. POHNERT	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 May 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *16-30* is/are pending in the application.

4a) Of the above claim(s) *27 and 28* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *16-26,29 and 30* is/are rejected.

7)☒ Claim(s) *16-26,29 and 30* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 July 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/6/2009, 10/3/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of group 1, claims 16-26 and 29-30 and the combination of genes ALDH1IA1, ARPP-21, HSPA8, SKP1A, SLC!8A2, SRPK2, TMEFF1, TRIM36, ADH5, PSMA3, PSMA2, PSMA5, PSMC4, HIP2, and EGLN1, EIF4EBP2, LGALS9, LOC56920, LRP6, HAN2B1, PARVA, PENK, SELPLG, SPHK1, SRRM2, ZSIG11, CSK in the reply filed on 5/4/2009 is acknowledged. The traversal is on the ground(s) that one or more genes are used to detect Parkinson's Disease . The response of 5/6/ 2009 has further amended the claims to require more that 1 gene and asserts that Galter only teaches a single gene. This is not found persuasive because Li et al (Toxicological Sciences (2002) volume 69 pages 383-390) as evidenced by Cheung (Nature Genetics, 2003, volume 33, pages 422-425) anticipates the instant claims.

As noted in the MPEP 2111.02, "If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction." Accordingly, the claim language of "a method for diagnosis, prognosis and/or follow-up of Parkinson's disease" merely sets forth the intended use or purpose of the claimed methods, but does not limit the scope of the claims.

This rejection is drawn to the single active step of the detecting altered expression patterns of the claimed genes. The claims do not set forth how the genes are altered.

Li et al teaches the use of HuGene FL, U95Av2 and Unigem V 2.0 microarrays to detect expression of gene expression (abstract). Li teaches gene expression was altered in figure 2. The combination of arrays comprises all the elected genes.

The art of Cheung et al teaches that there is natural variation in gene expression among different individuals. The reference teaches an assessment of natural variation of gene expression in lymphoblastoid cells in humans, and analyzes the variation of expression data among individuals and within individuals (replicates) p.422, last paragraph; Fig 1). The data indicates that, for example, expression of ACTG2 in 35 individuals varied by a factor of 17; and that in expression of the 40 genes with the highest variance ratios, the highest and lowest values differed by a factor of 2.4 or greater (Fig 3).

Thus the gene expression analysis of Li anticipates the instant claims as Li teaches performing gene expression analysis using arrays that comprise the elected combination of genes and analysis of different samples would result in detection of altered gene expression.

Claims 27-28 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 5/4/2009.

Claims 16-26 and 29-30 are being examined.

Priority

The instant application was filed 6/1/2007 as a national stage entry of PCT/IL05/00064 filed 1/19/2005. Foreign priority has been claimed to EPO applications 04000968.0 filed 01/19/2004 and 04018771.8 filed 8/6/2004.

Information Disclosure Statement

The IDS filed on 10/3/2007 presents the PCT search report as NPL 2. The PCT search report has been considered, but has been marked through as it does not have a publication date and thus cannot be printed on the face of a patent.

Specification

2. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. The specification includes numerous hyperlinks including page 19, lines 18, 21, 23, and 30, page 20 lines 5-6 and 19-20; page 21 line 2, 5, 24,; page 23, 26 and 29. Applicant is required to inspect the rest of the application and delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

Claim Objections

3. Claims 16-26 and 29-30 are objected to because of the following informalities: The claims as presented are not commensurate in scope with the elected invention. The claims should be amended to reflect the elected scope of the invention. It is noted that upon determination of allowable subject matter, rejoinder of non-elected inventions will be considered.

Claim 29 is objected to as it encompasses non-elected subject matter. Claim 29 depends from claim 18 and requires 5-8 genes in which gene expression is increased and 5-8 genes in which gene expression is decreased. However, the invention in view of the election requires 13 genes in which expression is decreased and 12 genes in which expression is increased. The claim should be amended to be consistent with the election.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 16-19, 29-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16 is indefinite because it lacks a positive active step relating back to the preamble. The preamble recites a method of a method for diagnosis, prognosis and/pr follow up for Parkinson's disease, however the only active step is drawn to detecting more than one gene with altered expression pattern or products thereof. Thus while the preamble sets forth the method is for diagnosis, prognosis and/pr follow up for Parkinson's disease the claims lack a step in which diagnosis, prognosis or follow-up occurs. Further the claims do not set for how the detection allows for diagnosis, prognosis or follow up of Parkinson's.

Claims 17-19, 29-30 are rejected as they depend from claim 16 and thus have all the limitations.

6. Claim 16 recites the limitation "said genes" in the second section. There is insufficient antecedent basis for this limitation in the claim as the claims do not previously recite, "genes". This rejection can easily be overcome by amending claim to recite, "said more than one gene."

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method of diagnosing Parkinson's Disease in human exhibiting Parkinsonian-like symptoms comprising : obtaining a sample from the Substantia Nigra Pars Compacta of the human; isolating mRNA from the sample; detecting in the sample a statistically significant decrease in the expression of ALDH1IA1, ARPP-21, HSPA8, SKP1A, SLC!8A2, SRPK2, TMEFF1, TRIM36, ADH5, PSMA3, PSMA2, PSMA5, PSMC4, and HIP2, and a statistically significant increase expression of EGLN1, EIF4EBP2, LGALS9, LOC56920, LRP6, HAN2B1, PARVA, PENK, SELPLG, SPHK1, SRRM2, ZSIG11, and CSK relative to age matched control samples, wherein a statistically significant increase or decrease has a p-value<0.05, and wherein there is a statistically significant increase decrease in ALDH1IA1, ARPP-21, HSPA8, SKP1A,

SLC!8A2, SRPK2, TMEFF1, TRIM36, ADH5, PSMA3, PSMA2, PSMA5, PSMC4, and HIP2, and a statistically significant increase expression of EGLN1, EIF4EBP2, LGALS9, LOC56920, LRP6, HAN2B1, PARVA, PENK, SELPLG, SPHK1, SRRM2, ZSIG11, and CSK diagnoses the human as having Parkinson's Disease, does not reasonably provide enablement for diagnosing, prognosising or following up Parkinson's disease with any level of altered expression, relative to any control, in any species or protein levels. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

There are many factors to be considered when determining whether there is sufficient evidence to support that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is undue. These factors have been described by the court in re Wands, 8 USPQ2d 1400 (CA FC 1988). Wands states at page 1404,

"Factors to be considered in determining whether a disclosure would require undue experimentation have been summarized by the board in the Ex parte Forman. They include (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims."

<u>The nature of the invention and the breadth of the claims:</u>

Claim 16 is drawn to a method of diagnosing, prognosising and/or follow-up of Parkinson's disease comprising detecting more than one gene with altered gene expression pattern or gene products thereof, said gene being selected from the group consisting of detecting one or more genes with altered expression pattern, or gene products thereof, said genes being selected from the group consisting of: ALDHIAI, ARPP-21, HSPA8, SKPIA, SLCI8A2, SRPK2, TMEFFI, TRIM36, ADH5, PSMA3, PSMA2, PSMA5, PSMC4, HIP2, PACE4, COX6AI, PFKP, OXCT, GBEI, UQCRC2, LANCLI, TRIP15, PIK3CA, PLCLI, GNG5, GNAII, VEGF, RHOB, NR4A2, SCL31A2, SCP2, PIGH, ARIH2, GMPR2, PP, IKBKAP, PRKACB, PTPRN2, BCAS2, IARS, PPPIR8, SEPI5, TAF9, ZFPI03, WRB, TMEM4, SMARCA3, FMRI, PDE6D, SGCE, AUH, SLCI6A7, ATP6VIEI, UGTRELI, SEC22LI, CD9, CDHI9, DUSPI, HSA6591, ACTR3, KIF2, TUBB2, ASPA, HELOI, C3orf4, CBRI, XPOT, LOC51142, NY-REN-45, SET0-2, EGLNI, EIF4EBP2, LGALS9, LOC56920, LRP6, MAN2BI, PARVA, PENK, SELPLG, SPHKI, SRRM2, ZSIGII, ITGB3BP, ITGAM, COLI8AI, TM4SF9, LAMB2, HS3ST2, TSTA3, COLSA3, PALM, MYOMI, FLNB, HMBS, KRT2A, CSK, NUDC, HYPE, GAK, SIATI, CSFIR, ICSBPI, CD22, ERCCI, DNAJB5, TRAF3, MMP9, EIF4GI, RPL36, SRPKI, SNK1G2, RPS6KA1, JIK, LNK, !NPP5D, TCOF1, NAPG, SLC19A1, ITSN1, LOC51035, PMVK, C21orf2, EFEMP2, TBL1X, APRT, SPUF, GLTSCR2, ADIR, PSCD4, CBFA2T1, CUGBP1, ING4, STAT6, ZNF239, TALI, TAFII, MXD4, RDHL, LOC51157, LRP6, MBD3, and C9orf7. In view of the election the claim requires "The more than one gene" encompasses ALDH1IA1, ARPP-21, HSPA8, SKP1A, SLC!8A2, SRPK2, TMEFF1, TRIM36, ADH5, PSMA3, PSMA2, PSMA5, PSMC4, HIP2,

and EGLN1, EIF4EBP2, LGALS9, LOC56920, LRP6, HAN2B1, PARVA, PENK, SELPLG, SPHK1, SRRM2, ZSIG11, CSK.

Claim 16 is drawn to the detection of any kind of altered gene expression in any tissue from any subject.

Claim 17 is drawn to the elected combination of genes.

Claim 18 (in view of the election) and claim 19 draws the invention to decreased expression of ALDH1IA1, ARPP-21, HSPA8, SKP1A, SLC!8A2, SRPK2, TMEFF1, TRIM36, ADH5, PSMA3, PSMA2, PSMA5, PSMC4, HIP2, and increased expression of EGLN1, EIF4EBP2, LGALS9, LOC56920, LRP6, HAN2B1, PARVA, PENK, SELPLG, SPHK1, SRRM2, ZSIG11, CSK.

Claims 20 (in view of the election) and claim 21 are drawn to a method of diagnosing occurrence of Parkinson's Disease in an individual exhibiting Parkinsonian-like symptoms comprising detecting in a sample from the individual decreased expression of ALDH1IA1, ARPP-21, HSPA8, SKP1A, SLC!8A2, SRPK2, TMEFF1, TRIM36, ADH5, PSMA3, PSMA2, PSMA5, PSMC4, HIP2, and increased expression of EGLN1, EIF4EBP2, LGALS9, LOC56920, LRP6, HAN2B1, PARVA, PENK, SELPLG, SPHK1, SRRM2, ZSIG11, CSK.

Claim 22 is draws the sample to a blood, serum or biopsy sample of the skin.

Claim 23 draws the detecting to either proteins or mRNA.

Claim 24 draws the method to detection of protein by an antibody.

Claim 25 draws the invention to RNA.

Claim 26 draws the invention to specific assays for mRNA.

Claim 29 draws the invention of claim 18 to require the level of at least 5-8 genes is increased and the level of at least 5-8 genes is decreased.

The amount of direction or guidance and the Presence and absence of working examples.

The specification teaches, " the inventors identified global major differentially expressed genes in the most affected brain are in PD, the substantia nigra compacta (page 16, lines 7-10). The specification teaches the "cerebellum of PD, an unaffected brain region, served as a control for tissue specificity" (page 16). Thus the specification teaches that different regions of the brain have differential gene expression patterns and thus could not be predictably used to detect PD.

The specification teaches the decreased expression of SKP1A in the substantia nigra (SN) of sporadic Parkinsonian patients is a major finding of the study. The specification teaches that SKP1A was decreased in SNpc (presumably Substantia Nigra Pars Compacta) but not in the SNr (pars reticulate) or cerebellum (page 17, lines 12-18). Further the specification teaches this was not a statically significant decrease. Thus the specification teaches SKP1A is only decreased by a non-statistical fashion only in the SNpc region of the brain.

The specification teaches human brains were dissected from control and PD donors and the cerebellum and SN were isolated and used in microarray analysis(page 18). The specification teaches that the microarray studies were validated by Rt-PCR in samples from SNpc, SNr and cerebellum from control and Pd subjects.

The specification teaches that SKP1 expression was analyzed by histochemical methods.

The specification teaches that 6 parkinsonian patients and 6 age matched controls were used in differential expression analysis and 137 genes had a 1.5 fold differential expression and a significance level of $p<0.05$ (page 23).

The specification teaches is a significant decreased in HSP8 in the SNpc and SNr of Pd subjects but not the cerebellum of controls (page 26).

Presence and absence of working examples

The specification has provided no working examples of more than one protein expression level are able to diagnose PD.

The specification provides no examples in which any tissue other that brain tissue were examined. The specification clearly indicates that brain tissue from different regions of the brain have different expression patterns. It would thus be unpredictable to use gene expression patterns from other brain regions or tissues due to this variability.

The specification does not teach that the instant method can diagnose PD in any other species.

The state of prior art and the predictability or unpredictability of the art:

Benner et al (Trends in Genetics (2001) volume 17, pages 414-418) teaches that, "Here, the 'homology-implies-equivalency' assumption is restricted to a subset of homologs that diverged in the most-recent common ancestor of the species sharing the

homologs. This strategy is useful, of course. But it is likely to be far less general than is widely thought. Two species living in the same space, almost by axiom, cannot have identical strategies for survival. This, in turn, implies that two orthologous proteins might not contribute to fitness in exactly the same way in two species" (see page 414, 3rd column last full paragraph). Benner specifically describes that although the leptin gene homologs have been found in mice and humans, their affect is different (see page 414, 3rd column last paragraph-3rd column page 415). Benner specifically teaches that the leptin gene in mice plays a major role in obesity, but no such effect has been demonstrated in humans due perhaps to the different evolutionary forces. Benner thus teaches that the activity and function of genes in different species is unpredictable.

The art of Cheung et al (Nature Genetics, 2003, volume 33, pages 422-425) teaches that there is natural variation in gene expression among different individuals. The reference teaches an assessment of natural variation of gene expression in lymphoblastoid cells in humans, and analyzes the variation of expression data among individuals and within individuals (replicates) p.422, last paragraph; Fig 1). The data indicates that, for example, expression of ACTG2 in 35 individuals varied by a factor of 17; and that in expression of the 40 genes with the highest variance ratios, the highest and lowest values differed by a factor of 2.4 or greater (Fig 3).

Greenbaum et al (Genome Biology 2003, volume 4, article 117, pages 1-8) teaches that protein and mRNA levels are not predictably correlated (see abstract). Greenbaum teaches the same mRNA expression levels can be accompanied by upto 20 fold differences in protein levels (page 4, 1st column, 1st full paragraph). Greenbaum

et al further teaches there are 3 reasons for a lack of correlation between mRNA and protein levels. First there is post-transcriptional regulation of protein synthesis. Second, proteins have different half-lives than mRNA. Third, there is a significant amount of error in the determination of protein and mRNA levels (see page 4, 2nd column, 1st full paragraph).

Okada et al (Journal of Biological Chemistry (1991) volume 266, page 24249-24252) teaches that CSK is differentially expressed in brain relative to various other tissues (figure 1).

The post-filing art of Sullivan (American Journal of Medical Genetics part B (Neuropsychiatric Genetics (2006) volume 141B: pages 261-268) teaches the post-filing art recognizes there are differences in gene expression in different tissues, specifically blood and brain. Sullivan teaches, "These analyses suggest that gene expression in whole blood is neither perfectly correlated and useful, nor perfectly uncorrelated and useless with gene expression in multiple brain tissues. Whole blood gene expression may not be useful for certain applications (e.g., the study of brain oxygen transport, RNA binding, and DNA binding) or for any investigation that requires a high precision at the tissue or transcript level. The use of whole blood as a surrogate for CNS expression may be defensible in the investigation of some sets of genes and may be inappropriate for others." (page 267, 1st column).

The level of skill in the art:

The level of skill in the art is deemed to be high

Quantity of experimentation necessary:

In order to practice the invention as claimed, one would first have to establish that a predicative relationship exists between any altered expression increase or decrease of any level of the claimed combination of genes. This would require undue trial and error experimentation as the claims do not set forth what the altered level of expression is required. Further the claims and specification clearly indicate that any level of altered expression is not predictable as decreased expression of ALDH1IA1, ARPP-21, HSPA8, SKP1A, SLC!8A2, SRPK2, TMEFF1, TRIM36, ADH5, PSMA3, PSMA2, PSMA5, PSMC4, HIP2, and increased expression of EGLN1, EIF4EBP2, LGALS9, LOC56920, LRP6, HAN2B1, PARVA, PENK, SELPLG, SPHK1, SRRM2, ZSIG11, CSK together in samples examined from SNpc . It would further be unpredictable to use any level of alteration as Cheung teaches that there is a 17 fold variation in gene expression in subjects. Thus it would be unpredictable to make a comparison to a single subject and/or any level of expression.

Further it would be unpredictable to use any sample for the instant method as the specification teaches that brain regions: SN, Snr, SNpc and cerebellum all have different expression patterns and are differently affected by Parkinson's disease. Thus it would be unpredictable to use other regions of the brain. Further it would also be unpredictable to use other tissues such as skin, blood, etc as Okada teaches that CSK expression is known to vary across tissues. Further Sullivan teaches that gene expression is variable between brain and blood. Thus it would be unpredictable to practice the invention as claimed in any other tissue than the SNpc in which the relationship described in the specification occurs without a specific nexus or proof that

the same expression pattern occurs in other tissues and is indicative of Parkinson's disease.

Further it would be unpredictable to practice the instant invention in any other species as the specification teaches analysis of humans. The teachings of Brenner demonstrate that different genes have different functions in different species due to different evolutionary pressures. Thus it would be unpredictable to practice the invention as claimed in any non-human species without specific guidance that the genes altered gene expression pattern is indicative of Parkinson's disease in another species in view of the teachings of Benner.

Finally it would be unpredictable to practice the invention as claimed by detection of protein as the specification has taught a single gene SKP1A has altered expression at the protein level. Thus the specification has not provided a single example in which more than one protein has altered expression in Parkinson's disease. Further Greenbaum teaches mRNA levels do not predictable correlate with protein levels because of mRNA stability, post-transcriptional regulation of protein synthesis and errors in mRNA and protein detection. Thus it would be unpredictable to use the mRNA of the specification to extrapolate to the use of protein levels for diagnosis or prognosis of Parkinson's disease without specific evidence or guidance that there is either a one to one correlation of mRNA for all the genes required or evidence that the protein levels provide the same result. In the instant case there is no evidence of record of either, and thus the claims as presented are unpredictable.

Therefore, in light of the breadth of the claims, the lack of guidance in the specification, the high level of unpredictability in the associated technology, the nature of the invention, the negative teachings in the art, and the quantity of unpredictable experimentation necessary to practice the claimed invention, it would require undue experimentation to practice the invention as claimed.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 16, 17 rejected under 35 U.S.C. 102(b) as being anticipated by Li et al (Toxicological Sciences (2002) volume 69 pages 383-390) as evidenced by Cheung (Nature Genetics, 2003, volume 33, pages 422-425).

As noted in the MPEP 2111.02, “If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention’s limitations, then the preamble is not considered a limitation and is of no significance to claim construction.” Accordingly, the claim language of "a method for diagnosis, prognosis and/or follow-up of Parkinson’s disease” merely sets forth the intended use or purpose of the claimed methods, but does not limit the scope of the claims.

This rejection is drawn to the single active step of the detecting altered expression patterns of the claimed genes. The claims do not set forth how the genes are altered.

Li et al teaches the use of HuGene FL, U95Av2 and Unigem V 2.0 microarrays to detect expression of gene expression (abstract). Li teaches gene expression was altered in figure 2. The combination of arrays comprises all the elected genes.

The art of Cheung et al teaches that there is natural variation in gene expression among different individuals. The reference teaches an assessment of natural variation of gene expression in lymphoblastoid cells in humans, and analyzes the variation of expression data among individuals and within individuals (replicates) p.422, last paragraph; Fig 1). The data indicates that, for example, expression of ACTG2 in 35 individuals varied by a factor of 17; and that in expression of the 40 genes with the highest variance ratios, the highest and lowest values differed by a factor of 2.4 or greater (Fig 3).

Thus the gene expression analysis of Li anticipates the instant claims as Li teaches performing gene expression analysis using arrays that comprise the elected combination of genes and analysis of different samples would result in detection of altered gene expression.

It is noted that amending the claims to recite steps of diagnosis or prognosis and/or specific genes are increased or decreased would overcome the instant rejection.

Summary

No claims are allowed.

Conclusions

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEVEN C. POHNERT whose telephone number is (571)272-3803. The examiner can normally be reached on Monday-Friday 6:30-4:00, every second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James (Doug) Schultz can be reached on 571-272-0763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven C Pohnert/
Examiner, Art Unit 1634

Steven Pohnert